REMARKS

Claims 1 and 99 have been amended. Claims 1-31 and 99 are pending. Applicants reserve the right to pursue the original claims and other claims in this and other applications. Applicants respectfully request reconsideration of the above-referenced application in light of the amendments and following remarks.

Claims 1-5, 7, 10-18, 23-31, and 99 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,475,854 ("Narwankar I"). The rejection is respectfully traversed.

The cited reference fails to teach the subject matter of amended claims 1 and 99. Specifically, Narwankar I does not disclose a capacitor comprising, *inter alia*, "a bottom conducting layer . . . [which] is a bottom electrode; a dielectric layer . . . and a top electrode . . . [which] is a single oxidized gas annealed top conducting layer," as recited in claim 1, or a capacitor comprising, *inter alia*, "a bottom electrode . . . a dielectric layer . . . and an upper electrode . . . wherein a top layer of the upper electrode is an oxidized gas annealed layer," as recited in claim 99. Narwankar I does not disclose that a top electrode that is a single oxidized gas annealed top conducting layer, much less an upper electrode with a top layer that is an oxidized gas annealed layer.

The Office Action asserts that Narwankar I discloses a memory device with a bottom conducting layer 605, a dielectric layer 606, and a top conducting layer 608 which is annealed to become an oxidized gas annealed top layer 610. However, Narwankar I also discloses that a "second upper metal layer 612 is then deposited onto the upper oxygen containing layer 610." (Col. 11, lines 16-17) (emphasis added). The combination of "[t]he upper oxygen-containing layer 610 and the second upper metal layer 612 together form the upper electrode 615 for the capacitor structure 650." (Col. 11, lines 33-36) (emphasis added).

In other words, Narwankar I fails to disclose a capacitor with a "top electrode [that] is a single oxidized gas annealed top conducting layer," as recited in claim 1, or a capacitor with "an upper electrode . . . wherein a top layer of the upper electrode is an oxidized gas annealed layer," as recited in claim 99. Narwankar I's top or upper electrode 615, comprises at least two layers: layers 610 and 612. Further, the top layer 612 of upper electrode 615 is not an oxidized gas annealed layer. Narwankar I's layer 610, formed underneath top layer 612, is described as the oxygen-containing layer and not layer 612.

Applicants' specification provides that "during subsequent wafer fabrication, the dielectric layer develops oxygen vacancies which contribute to capacitor current leakage." (Pg. 3, lines 20-22). Applicants' claimed capacitor "improves the dielectric property of the dielectric layer 36 by adding an oxidizing gas anneal (second anneal) which fills the oxygen voids created in the dielectric layer 36 after the top conducting layer 38 is deposited." (Applicants' specification, pg. 8, lines 8-10) (emphasis added).

Narwankar I, in contrast, merely teaches that the second metal layer 612 is deposited after the first metal layer 608 is annealed (which becomes layer 610). Narwankar I does not teach that the second metal layer 612 is annealed. Since Narwankar I teaches that the top layer, here, metal layer 612, is deposited after the oxidizing anneal, oxygen voids would still be present in the dielectric layer. Thus, Narwankar I merely discloses a conventionally formed top electrode, comprising two separate layers 610 and 612, and not Applicants' claimed capacitor with a top electrode that has an oxidized gas annealed top conducting layer, or a top electrode with a single oxidized gas annealed top conducting layer.

For at least these reasons, claims 1 and 99 should be allowable over Narwankar I. Claims 2-5, 7, 10-18, and 23-31 depend from claim 1 and should be similarly allowable along with claim 1 for at least the reasons provided above, and on their own merits.

Claims 1, 6, and 8-14 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,204,203 ("Narwankar II"). The rejection is respectfully traversed.

Narwankar II fails to teach a capacitor comprising, *inter alia*, "a bottom conducting layer . . . [which] is a bottom electrode; a dielectric layer . . . and a top electrode . . . [which] is a single oxidized gas annealed top conducting layer," as recited in claim 1. Specifically, Narwankar II does not disclose a top electrode which is a single oxidized gas annealed top conducting layer. Narwankar II merely teaches a conventionally formed top electrode that is not annealed.

For example, in Narwankar II's FIG. 2e, an annealed silicon nitride layer 209 is formed on bottom electrode 206; a polycrystalline metal oxide dielectric 210 is formed on layer 209, and a top capacitor electrode 212 is formed on dielectric layer 210. Narwankar II's top capacitor electrode 212 is formed by any well-known technology (Col. 9, lines 13-18). Narwankar II's top electrode 212 does not have an oxidized gas annealed top conducting layer.

Accordingly, Narwankar II does not disclose "a top electrode . . . [which] is a single oxidized gas annealed top conducting layer," as recited in claim 1. Claims 6 and 8-14 depend from claim 1 and should be similarly allowable for at least the reasons provided above with regards to claim 1, and on their own merits.

Claims 1 and 19-22 stand rejected under 35 U.S.C. § 102(e) as being anticipated by U.S. Patent No. 6,620,680 ("Durcan"). The rejection is respectfully traversed.

Durcan fails to teach a capacitor comprising, *inter alia*, "a bottom conducting layer . . . [which] is a bottom electrode; a dielectric layer . . . and a top electrode . . . [which] is a single oxidized gas annealed top conducting layer," as recited in claim 1. Specifically, Durcan does not disclose a top electrode which is a single oxidized gas annealed top conducting layer. Durcan merely teaches a conventionally formed top electrode that is not annealed.

For example, in Durcan's FIG. 21, a conductive layer 20 is formed on conductive studs 15. A capacitor dielectric layer 23 is formed over conductive layer 20. A conductive layer 24 "fills at least a portion of contact site 5 and forms at least a portion of a container capacitor's top electrode." (Col. 5, lines 8-10). Then another conductive layer 51 is formed on conductive layer 24 (FIG. 21). Neither conductive layer 24 nor conductive layer 51 is a single oxidized gas annealed top conducting layer. In fact, there is no teaching that any of the conductive layers: 20, 24, or 51 are annealed. Accordingly, Durcan does not teach the subject matter of claim 1.

Claims 19-22 depend from claim 1 and should be similarly allowable for at least the reasons provided above with regard to claim 1, and own their own merits.

In view of the above, each of the presently pending claims in this application is believed to be in immediate condition for allowance. Accordingly, the Examiner is respectfully requested to pass this application to issue.

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Respectfully submitted,

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